

Application Serial Number 10/567,040
Response to Office Action
Dated December 20, 2006

FEB 20 2007

2. Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented) A device for shortening hairs comprising:
 - a laser source for generating a laser beam;
 - an optical system for focusing the laser beam into a focal spot; and
 - a laser beam manipulator for positioning the focal spot in a target position, characterized in that a dimension of the focal spot and a power and wavelength of the generated laser beam are such that, in the focal spot, the laser beam provides laser induced optical breakdown phenomenon as to the hair tissue so as to damage the hair tissue via a mechanical effect.
2. (Original) A device for shortening hairs as claimed in claim 1, characterized in that a wavelength of the laser beam is between 800 nm and 1300 nm.
3. (Original) A device for shortening hairs as claimed in claim 2, characterized in that the wavelength is between 1000 nm and 1100 nm.
4. (Previously Presented) A device for shortening hairs as claimed in claim 1, further comprising: an image sensor for detecting an image of at least a portion of a skin with hairs to be shortened, an image recognizing system for determining a position and/or orientation of the hairs relative to the skin, and a control system for determining the target position of the focal spot as a function of said position and/or orientation of the hairs, wherein, during operation, the control system adjusts the laser beam manipulator into a

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position corresponding to the target position of the focal spot and, subsequently, activates the laser source.

5. (Previously Presented) A device for shortening hairs as claimed in claim 4, characterized in that, during operation, for each target position the control system activates the laser source so as to generate a plurality of laser pulses with a predetermined pulse time.

6. (Original) A device for shortening hairs as claimed in claim 4, characterized in that, during operation, the control system consecutively adjusts the laser beam manipulator into a number of adjacent target positions on an imaginary line extending through a hair to be shortened transversely to a longitudinal direction of the hair.

7. (Previously Presented) A device for shortening a hair, comprising:
a laser source configured to generate a laser beam, of selected power, having a first wavelength for which the hair is transparent or semi-transparent;
an optical system configured to focus the laser beam into a focal spot of selected dimension so as to provide a selected power density at the focal spot; and
a laser beam manipulator configured to position the focal spot in a target position associated with the hair, so as to provide, responsive to the power density and the first wavelength of the laser beam at the focal spot, laser induced optical breakdown phenomenon so as to damage the hair via a mechanical effect.

8. (Previously Presented) A device as claimed in Claim 7, wherein the laser source, the optical system and the laser beam manipulator are configured so as to provide laser induced optical breakdown phenomenon so as to damage the hair via the mechanical effect, the mechanical effect including cavitation.

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9. (Previously Presented) A device as claimed in Claim 7, wherein the laser source, the optical system and the laser beam manipulator are configured so as to provide laser induced optical breakdown phenomenon so as to damage the hair via the mechanical effect, the mechanical effect including a shock wave.
10. (Previously Presented) A device as claimed in Claim 7, wherein the laser source is configured to generate a laser beam having a second wavelength to which the hair is other than transparent or semi-transparent, and wherein the laser source, the optical system and the laser beam manipulator are configured so as to damage the hair both (i) as to the first wavelength, via the mechanical effect and (ii) as to the second wavelength, via one or more of: (a) melting, (b) evaporation, (c) burning, or (d) a combination of "(a)"- "(c)".
11. (Previously Presented) A device as claimed in Claim 7, wherein the hair is associated with skin and a skin surface such that said skin is present between the skin surface and the focal spot, and wherein the laser source generates a laser beam having a wavelength for which both the hair and said skin are transparent or semi-transparent, whereby damage to said skin is limited.
12. (Previously Presented) A device as claimed in Claim 7, wherein the laser source, the optical system and the laser beam manipulator are configured to provide laser induced optical breakdown substantially only in the focal spot.
13. (Previously Presented) A device as claimed in Claim 7, wherein the laser source, the optical system and the laser beam manipulator are configured so as to provide laser induced optical breakdown phenomenon toward mechanically breaking the hair.
14. (Previously Presented) A device as claimed in Claim 13, wherein the laser source, the optical system and the laser beam manipulator are configured so as to provide laser

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induced optical breakdown phenomenon toward mechanically breaking the hair completely.

15. (Previously Presented) A device as claimed in Claim 7, further comprising a control system, the control system controlling the laser source and the laser beam manipulator, such that the laser beam manipulator is operable to adjust the focal spot among a plurality of target positions transverse to the length of the hair, and such that the laser source is operable to generate the laser beam as a plurality of laser pulses in each of said target positions so as to provide laser induced optical breakdown phenomenon at each of said plurality of target positions.

16. (Previously Presented) A device as claimed in Claim 15, wherein the control system controls the laser beam manipulator such that the laser beam manipulator is operable to adjust the focal spot among said plurality of target positions, the target positions being at regular intervals extending through the hair transversely to the length of the hair.

17. (Previously Presented) A device as claimed in Claim 15, wherein the control system controls the laser beam manipulator such that the laser beam manipulator is operable to adjust the focal spot among said plurality of target positions, the target positions lying on an imaginary line extending through the hair transversely to the length of the hair.

18. (Previously Presented) A device as claimed in Claim 15, wherein the laser source is configured to generate the laser beam so as to have a pulse frequency of 100Hz and to generate the laser beam in each of said plurality of target positions during a period of approximately 50ms so as to generate approximately 5 laser pulses in each of said plurality of target positions.

19. (Previously Presented) A device as claimed in Claim 18, wherein the laser source is configured to generate the laser beam so that the laser beam has a pulse time which, in

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combination with the wavelength and power density of the laser beam, provides laser induced optical breakdown so as to damage the hair via the mechanical effect at each of said plurality of target positions.

20. (Previously Presented) A device as claimed in Claim 15, wherein the control system, the laser source, the optical system and the laser beam manipulator are configured so as to provide laser induced optical breakdown phenomenon toward mechanically breaking the hair completely.